

WHAT IS CLAIMED IS:

1. An adjustable aperture system, comprising:
a stationary aperture operable to remove a portion
of a lower intensity light communicated through a light
5 bundle;
an adjustable aperture comprising a notch and
capable of varying an amount of projection light
communicated through the light bundle, wherein the notch
operates to reduce the effect of the adjustable aperture
10 on a high intensity light communicated through the light
bundle; and
a control motor operable to receive a control signal
and to selectively manipulate the adjustable aperture.
- 15 2. The adjustable aperture system of Claim 1,
wherein the stationary aperture reduces the effect of off
state light communicated through the light bundle on a
projected image when the adjustable aperture is in its
full closed position.
- 20 3. The adjustable aperture system of Claim 1,
wherein the adjustable aperture includes a scallop
section that provides a relatively linear response as the
adjustable aperture transitions through the light bundle.
- 25 4. The adjustable aperture system of Claim 3,
wherein a radius of the scallop section is substantially
similar to a radius associated with the light bundle.
- 30 5. The adjustable aperture system of Claim 1,
wherein the adjustable aperture comprises a material

selected from the group consisting of black 30% glass
filed UltemTM and anodized aluminum.

6. The adjustable aperture system of Claim 1,
5 wherein the notch operates to communicate at least a
majority of the high intensity light communicated through
the light bundle.

7. The adjustable aperture system of Claim 1,
10 wherein the notch operates to communicate substantially
all of a high intensity light communicated through the
light bundle.

8. The adjustable aperture system of Claim 1,
15 wherein the notch operates to communicate at least a
minimum amount of projection light through the adjustable
aperture when the adjustable aperture is in its full
closed position.

20 9. The adjustable aperture system of Claim 8,
wherein the minimum amount of light comprises at least
twenty-five percent of the projection light communicated
through the light bundle.

25 10. The adjustable aperture system of Claim 1,
wherein the control motor comprises a trapezoidal voice
coil motor capable of at least 128 step changes and is
capable of transitioning through the at least 128 steps
in approximately sixteen milliseconds or less.

11. The adjustable aperture system of Claim 1, wherein the control motor is selected from the group consisting of a fast-acting linear actuator, a galvanometer type actuator, and a rotary actuator.

12. An image display system, comprising:

a modulator operable to selectively communicate a projection light beam along a projection light path; and

at least one adjustable aperture positioned in the
5 projection light path and operable to selectively vary an amount of the projection light beam communicated from the modulator, the adjustable aperture comprising a notch that operates to reduce the effect of the adjustable aperture on a high intensity light associated with the
10 projection light beam and wherein the notch communicates at least a majority of the high intensity light associated with the projection light beam.

13. The system of Claim 12, wherein the modulator
15 comprises a device selected from a group consisting of a digital micro-mirror device, a reflective liquid crystal modulator, and a light emitting diode modulator

14. The system of Claim 12, wherein the at least
20 one adjustable aperture selectively varies the amount of the projection light beam based at least in part on image data.

15. The system of Claim 14, wherein the image data
25 comprises data selected from a group consisting of an image content of an image frame, a color content of an image frame, an integrated intensity of an image frame, a peak-to-peak intensity value of an image frame, and subjectively weighted area.

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16. The system of Claim 12, further comprising:

a control module operable to control a position of the adjustable aperture based at least in part on image data received from a communication device; and

a control motor operable to receive a control signal
5 and to selectively manipulate the adjustable aperture.

17. The system of Claim 16, wherein the control motor comprises a trapezoidal voice coil motor capable of transitioning through at least 128 steps in approximately
10 sixteen milliseconds.

18. The system of Claim 16, wherein the control motor is selected from the group consisting of a fast-acting linear actuator, a galvanometer type actuator, and
15 a rotary actuator.

19. An adjustable aperture system, comprising:
an adjustable aperture comprising a notch and
capable of varying an amount of projection light
communicated through the light bundle, wherein the notch
5 operates to reduce the effect of the adjustable aperture
on a high intensity light communicated through the light
bundle and wherein the notch communicates at least a
majority of the high intensity light communicated through
the light bundle; and
10 a control motor operable to receive a control signal

20. The adjustable aperture system of Claim 19,
wherein the adjustable aperture includes a scallop
section that provides a relatively linear response as the
15 adjustable aperture transitions through the light bundle.